

ANALOG

CHORUS/VIBRATO

DELUXE HIGH-FIDELITY BBD TIME MODULATOR

Well, it is about time! Mr. Black has finally created an Analog Chorus/Vibrato, and what a chorus/vibrato pedal it is!!

Hidden beneath its sleek, sexy and intuitive exterior control set, the Analog Chorus/Vibrato Deluxe offers incredibly high-fidelity BBD (bucket-brigade device) chorusing and pitch vibrato, usually reserved for outboard rack-mount units, but in pedal format! How was it possible to cram all that performance that into a compact pedal? Who cares about all that? Let's get into just what the Analog Chorus/Vibrato Deluxe brings to you! (Spoiler: it's a **LOT!!**)

Basic Overview and Features:

- 100% pure-analog signal path and clock, employing a 1024-stage BBD
- Four (4) digitally-controlled 100% pure-analog output waveforms (Triangle, Square, Sine and Glitch)
- Super-precise tap-tempo, and a 100% analog Rate control
- A full Wet/Dry mix control which offers full range of pure-dry to pure-wet output
- Variable delay time, via the Lag control, allowing for fine-tuning of the chorus character, while also affording super-low latency pure-analog pitch vibrato
- Exclusive Shine control allows gentle softening of the BBD high-end content, for super-clean and pristine chorus or vintage-style dark and murky BBD chorus and pitch vibrato
- Super high headroom circuit, with the ability to run at up to 18VDC, if desired
- True-Bypass with constant, real-time Rate LED which also displays the selected/active waveform

As always, this Mr. Black pedal was designed and handmade in the beautiful pacific-northwest city of Portland, OR.

A few things to keep in mind:

The Analog Chorus/Vibrato Deluxe is a very high-performance analog/BBD chorus/vibrato, and while the clever noise reduction, headroom expansion and gentle treble roll-off circuits included in its design afford the pedal to accept a VERY hot signal, it is possible to make the unit clip/overload with extremely hot signals and/or with a very fast transient attack. While it is unlikely that you will be able to force the unit to clip, it is theoretically and physically possible, and this characteristic is entirely normal and part of the "charm" of a BBD circuit.

The same goes for the base noise floor. BBDs are an incredibly noisy (see Tech Specs on Page 2) and gritty technology; far from an ideal or perfect sampling solution, but within their inherent limitations and flaws lies a special charm, character and "smear" that many, including myself, have found to be both musical and irreplaceable with any other technology.

I truly believe that you will find this pedal to be of incredible and unsurpassed quality: in both sound and function as well as ease of use and longevity.

With all that said, nothing in this world is perfect, and part of what gives a BBD circuit its magic and makes it "shine," so to speak, is its inherent irregularities and imperfections.

Please see Page 2 for tips, tricks and special features which will allow you to get the most out of your Analog Chorus/Vibrato Deluxe!

Controls:

- WET/DRY: Clean/BBD mix control
 - Full CCW: 0:1; pure dry
 - Full CW: 1:0; pure wet (BBD)
- SHINE: Gentle BBD high-end roll-off
 - Full CCW: -0.15dB @ ≈1590Hz
 - Full CW: -5dB @ ≈1590Hz
- WIDTH: BBD modulation range
 - Full CCW: No modulation
 - Full CW: Maximum modulation
- LAG: Base BBD delay time
 - Full CCW: ≈4mS base delay
 - Full CW: ≈12mS base delay
- RATE: BBD modulation cycle
 - Full CCW: 0.423Hz (≈2.36S cycle)
 - Full CW: 16.66Hz (≈60mS cycle)
 - Tap-Tempo: 0.076Hz (≈13S cycle)
 - 83Hz (≈12mS cycle)
- ON/OFF: Toggles Effect / True-Bypass
 - Green LED: **EFFECT/ENGAGE**
 - Red LED: True-Bypass
- TAP[WAVE]: Tap-tempo / Wave-select
 - Tap: Tap-Tempo
(tap twice to set rate)
 - [Hold]: Cycle / Select waveform
(Triangle, Square, Sine, Glitch)
[hold approx. 2 seconds]

Tips, Tricks and Special Features:

Tap-Tempo stuff:

The tap-tempo circuit is incredibly accurate, and stupidly precise. It measures your tap inputs down to the 1/5000th of a second, and has a maximum drift of just under 20μS per day (that's 20/1,000,000ths of a second). When using the tap-tempo foot-switch, the second press will both set the tempo, and will also (re)start the active waveform at the beginning of its cycle. This is really useful for timing the LFO to your song, or passage. The tap-tempo offers an extended range of the Rate control, affording up to a 13-second cycle of the LFO (that is REALLY SLOW!!), and while this seems totally crazy and maybe unnecessary (and it kind of is), the super slow rate becomes extra wonderful when using the Glitch waveform. A really long/slow cycle creates some really cool sounds with the Glitch wave and is almost guaranteed to inspire!

Press and hold the TAP[WAVE] foot-switch to cycle through the four different waveforms, in the order displayed below the footswitch (Triangle, Square, Sine, Glitch, Triangle...). The Rate LED will visually display the waveform applied, in real time, displaying exactly where you are in the waveform, and the waveform that you select will remain active until you change it.

And you know what's really cool?

The *waveform applied to your BBD signal is **actually analog!*** Digitally controlled, but 100% pure-analog. Pretty snazzy!

Signal chain stuff:

While everyone has their own way that they prefer to setup their effects signal chain, I have always preferred time-based effects, such as the AC/V DLX, *after* distortion/gain, and I took care to design this pedal to accommodate effects loops and handle gain gracefully. It is ultimately up to you as to where you would like to place this pedal in your effects chain, but I will always recommend that this pedal be placed post-gain, and ideally in the effects loop of your favorite amp, if it has one. If available, you will find even higher performance than you experienced while running the pedal into the front end of the amp, and the Shine control will become even more prominent when using the pedal in a high-gain situation where a lot of upper harmonic content is present. As always: Play loud, have fun and be sure to tell the people you love that you love them. Thanks again for purchasing this incredible BBD modulation pedal. You've got a hell of a piece of kit in front of you.

Tech Specs:

- Input impedance: ≈500KΩ
- Output impedance: ≈2KΩ
- Dry freq. response: ≈22KHz - ≈15Hz
- BBD freq. response: ≈11.6KHz - ≈16Hz
- BBD S/N ratio: ≈73:1 dB
- Bypass: True-Bypass
- Current draw: ≈62mA @ 9VDC
- Power requirement: 9VDC adapter (≥100mA)
- Dimensions: 3.97"x4.72"x 2"
- Weight: ≈15.7oz